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From: **Robert N. Rountree**
Robert N. Rountree, LLC
 Facsimile: **719-783-0990**
 Phone: **719-783-0990**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Schmidl et al.**

Docket Number: **TI-31670**

Serial No.: **09/915,091**

Art Unit: **2686**

Filed: **07/25/2001**

Examiner: **Perez Gutierrez, Rafael**

Conf. No.: **5570**

For: **WIRELESS COMMUNICATION CHANNEL SELECTION USING
 PASSIVE INTERFERENCE AVOIDANCE TECHNIQUES**

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NAME OF INVENTOR(S): <i>Schmidl et al.</i>	RECEIPT DATE & SERIAL NO.: <i>09/915,091</i>
TITLE OF INVENTION: WIRELESS COMMUNICATION CHANNEL SELECTION USING PASSIVE INTERFERENCE AVOIDANCE TECHNIQUES	FILING DATE: <i>July 25, 2001</i>
TI FILE NO.: <i>TI-31670</i> DEPOSIT ACCT. NO.: <i>20-0668</i>	
DATE FAXED: <i>October 8, 2007</i>	
DUE: <i>October 8, 2007</i>	
ATTY/SECY: <i>Robert N. Rountree</i>	

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Robert N. Rountree, LLC
 70360 Highway 69
 Cotopaxi, CO 81223

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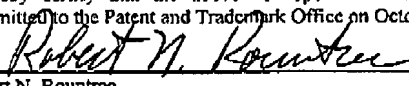
Examiner: **R.P. Gutierrez**

Conf. No.: **5570**

For: **WIRELESS COMMUNICATION CHANNEL SELECTION USING PASSIVE INTERFERENCE AVOIDANCE TECHNIQUES**

REQUEST PURSUANT TO 37 CFR 41.52(a) FOR REHEARING
OF BOARD OF APPEALS DECISION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that the above correspondence is being facsimile transmitted to the Patent and Trademark Office on October 8, 2007.

Robert N. Rountree

Dear Sir:

This paper is filed in response to the Board of Appeals Decision decided August 6, 2007.
Please charge any fees required by this paper to the deposit account of Texas Instruments Incorporated, Deposit Account No. 20-0668.

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INTRODUCTION

Appellants hereby respectfully request reconsideration of the aforementioned decision of the Board of Appeals for the following reasons:

1) The Board erred by determining that Van De Berg discloses "passively monitoring the plurality of frequency bands to determine interference information for each of the frequency bands; combining the interference information of said each of the frequency bands to produce a signal quality indication; and selecting the plurality of frequency bands for the desired wireless communication in response to the signal quality indication" as required by claim 1.

2) The Board erred by determining that Van De Berg discloses "a band selection controller coupled to said antenna for selecting a frequency band for use in a desired wireless communication from among a plurality of frequency bands available to be used for the desired wireless communication; said band selection controller operable for passively monitoring at least one of the available frequency bands to determine whether the at least one frequency band is acceptable for the desired wireless communication; said band selection controller operable for selecting a bandwidth of the at least one of the available frequency bands; and said band selection controller further operable for selecting the at least one frequency band for the desired wireless communication if the at least one frequency band is determined to be acceptable" as required by claim 13.

ARGUMENT

1) Independent claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Van De Berg (U.S. Pat. No. 5,907,812). The Board erred by determining that Van De Berg discloses “passively monitoring the plurality of frequency bands to determine interference information for each of the frequency bands; combining the interference information of said each of the frequency bands to produce a signal quality indication; and selecting the plurality of frequency bands for the desired wireless communication in response to the signal quality indication” as required by claim 1.

The Board stated “[w]e construe Van De Berg’s process of continuing to scan carrier frequency positions of interference, after one or more interference-free channels have been noted, to meet the claim limitation of ‘combining interference information,’ because Van De Berg *must ‘combine’ the ‘interference information’ consisting of the detection of a contiguous plurality of interference-free bands in order to arrive at his determination that communication across a particular bandwidth may commence.*” (Board Decision, 8/6/2007, pages 7-8) (emphasis added). Appellants respectfully disagree. The Board has apparently substituted “using” for “combining” in their Decision. Combining means “to bring into a state of unity: MERGE.” Webster’s II New Riverside University Dictionary 284 (1988). Using means “to bring or put into service: EMPLOY.” Webster’s II New Riverside University Dictionary 1271 (1988). Van De Berg discloses using interference information from different frequency bands. However, Van De Berg does not disclose “combining the interference information of said each of the frequency bands to produce a signal quality indication” as required by claim 1.

The Board relies on the rationale that “Van De Berg *must ‘combine’ the ‘interference information’ consisting of the detection of a contiguous plurality of interference-free bands in order to arrive at his determination that communication across a particular bandwidth may commence.*” (emphasis added). This rationale is flawed for at least three reasons. First, when Van De Berg rejects a carrier frequency position due to interference, it is without regard to interference at any other carrier frequency position. (col. 9, lines 9-14). Nothing is combined. Second, when Van De

Berg accepts a carrier frequency position, it is without regard to interference at any other carrier frequency position. (col. 9, lines 14-17). Again, nothing is combined. Third, Van De Berg processes a most recent carrier frequency position at step 5 "FORM BAND." Then "a concatenation of carrier frequency positions is formed, having the width of the communication frequency bandwidth of the system which is essentially free of interference." (col. 9, lines 19-21). However, this is a concatenation of carrier frequency positions. No interference information is combined to produce a signal quality indication. Moreover, since no interference information is combined to produce a signal quality indication, Van De Berg does not disclose "selecting the plurality of frequency bands for the desired wireless communication in response to the signal quality indication.

The Board states "[a]nticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1946 (Fed. Cir. 1999); *in re Paulsen*, 30 F.3d 1475, 1478-1479, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994)." Neither the examiner nor the Board has raised principles of inherency. Here, Van De Berg fails to disclose the steps of "combining" and "selecting" as required by claim 1. Thus, the Board erred in expressly finding every limitation of the claim 1 in Van De Berg.

The invention of claim 1 is significantly different from the disclosure of Van De Berg. This difference is not a simple matter of semantics. The present invention advantageously combines interference information of individual narrow band frequencies to produce a signal quality indication. It then uses the signal quality indication to select an acceptable wide band carrier. In this manner, individual narrow band frequencies with relatively higher levels of interference may still be acceptable for wide band communication. Moreover, when many narrow band frequencies of the wide band carrier have an interference level near a predetermined threshold level, the wide band carrier might be deemed acceptable according to Van De Berg. The present invention, however, might advantageously reject the wide band carrier due to the cumulative interference level. For all the foregoing reasons, Appellants respectfully submit that claim 1 and depending claims 3, 5, 8-10, 12 are patentable over Van De Berg under 35 U.S.C. § 102(b). Furthermore, claims 2, 6-7, and 11 are also patentable under 35 U.S.C. § 103(a) as depending from patentable claim 1.

2) Independent claims 13 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Van De Berg. The Board considers claim 13 representative of claim 22. Thus, Appellants will restrict their argument to claim 13. The Board erred by determining that Van De Berg discloses “a band selection controller coupled to said antenna for selecting a frequency band for use in a desired wireless communication from among a plurality of frequency bands available to be used for the desired wireless communication; said band selection controller operable for passively monitoring at least one of the available frequency bands to determine whether the at least one frequency band is acceptable for the desired wireless communication; *said band selection controller operable for selecting a bandwidth of the at least one of the available frequency bands; and said band selection controller further operable for selecting the at least one frequency band for the desired wireless communication if the at least one frequency band is determined to be acceptable*” as required by claim 13. (emphasis added). This method of bandwidth selection is described in detail at page 4, lines 9-21, page 9, lines 19-22, and page 10, lines 2-5 of the instant specification. For example, bandwidth selection may be used for RSSI (received signal strength indication) measurement to avoid microwave oven interference. (page 4, lines 19-21).

Regarding claim 13, the Board has raised issues that might be relevant to a rejection under 35 U.S.C. § 112. In particular, the Board states “Appellants claims do not contain limitations requiring the ability to change the width of the channel selected for observation, nor requiring user input.” (Board Decision, 8/6/2007, pages 7-8). The Board further states “Appellant refers to Van De Berg’s band width as “predetermined” (Br. 10:8), but Appellants’ claims contain no limitation describing when the width of any particular band is selected.” (Board Decision, 8/6/2007, page 9) (emphasis in original). Applicants respectfully disagree with both statements for the following reasons.

Select means “to pick out from among several: CHOOSE.” Webster’s II New Riverside University Dictionary 1057 (1988). Claim 13 recites “*said band selection controller operable for selecting a bandwidth of the at least one of the available frequency bands; and said band*

selection controller further operable for selecting the at least one frequency band for the desired wireless communication if the at least one frequency band is determined to be acceptable.” (emphasis added). The Board’s statements are incorrect, because claim 13 does contain the overlooked limitations. The selection must be made from available frequency bands (plural). Therefore, claim 13 does require the ability to change the bandwidth. Furthermore, the selection must be made by the band selection controller. Therefore, it is made during operation of the wireless communication system rather than by a predetermined specification. By way of comparison, Van De Berg specifically recites “radio communication in a *predetermined* radio frequency band” in every independent claim (1, 10-11, and 19) as well as in the specification. (emphasis added). However, there is no pending rejection under 35 U.S.C. § 112. The issue before the Board is not which limitations (such as when and how) might be added to claim 13. The issue is whether claim 13 (and 22) are anticipated by Van De Berg under 35 U.S.C. § 102(b).

The board relies on another flawed rationale for the foregoing emphasized limitations of claim 13 and states “[b]ecause Van De Berg teaches selecting carrier frequency bands, one after another, and *selecting a bandwidth for each (albeit the same bandwidth)* Appellants have not shown that the Examiner’s rejection is in error.” (Board Decision, 8/6/2007, page 9) (emphasis added). This rationale fails for at least two reasons. First, Van De Berg never discloses that that his communication system selects a bandwidth. Here, the Board confuses “using” with “selecting.” As previously discussed Van De Berg specifically teaches “radio communication in a *predetermined* radio frequency band” in every independent claim (1, 10-11, and 19) as well as in the specification. (emphasis added). For example, if the Board receives a Birthday present, opens it, and even uses it, did they necessarily select it? Of course not! Here, however, the issue is not whether Van De Berg might have selected a bandwidth (even though he states it is predetermined), the issue is whether Van De Berg discloses “a band selection controller operable for selecting a bandwidth of the at least one of the available frequency bands” as required by claim 13.

Second, the Board admits that Van De Berg uses only one bandwidth “(albeit the same bandwidth).” If there is only one bandwidth, then there are no “available frequency bands” (plural) as required by claim 13. In particular, if a band selection controller can’t select them, they are not available. Moreover, if there are no available frequency bands (plural), there is no

selection by a band selection controller as required by claim 13. Appellants respectfully reiterate select means "to pick out from among several: CHOOSE." Thus, claims 13 and 22 and their respective depending claims are patentable under 35 U.S.C. § 102(b) and under 35 U.S.C. § 103(a).

In view of the foregoing discussion, Appellants request favorable reconsideration of the Board Decision and a reversal of the rejection of Claims 1-3 and 5-32.

Respectfully submitted,



Robert N. Rountree
Attorney for Appellants
Reg. No. 39,347

Robert N. Rountree, LLC
70360 Highway 69
Cotopaxi, CO 81223
PHONE/FAX (719) 783-0990